associated with a decreased in receipt of Tx2 and TxS, though this was not statistically significant for TxS. **CONCLUSIONS:** Surgery of the primary tumor site and marital status were the most significant clinical variables predicting whether elderly beneficiaries proceed to Tx2. Surgery of the primary site was only statistically significant for predicting receipt of TxS. Increased age, less than 6 months of state buy-in, and SEER-registry site were associated with decreased receipt of Tx2 and TxS.

PCN153

STUDY OF THE TREATMENT PATTERNS IN METASTATIC BREAST CANCER PATIENTS IN A TERTIARY CARE HOSPITAL

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OBJECTIVES: To evaluate the clinico-pathological characteristics and treatment pattern in metastatic breast cancer (MBC) in tertiary care hospital. **METHODS:** A retrospective study was conducted using patient medical records diagnosed with metastatic breast cancer from January 2006 to December 2010 and were analyzed for clinico-pathological characteristics and treatment patterns. Demographic data along with socio-family history, hormonal receptor status, HER2/neu status, menopausal status, distant metastasis and treatment were recorded. **RESULTS:** The study included 152 MBC patients, which showed that the majority was seen in age-group 25 to 50 years, and the number of postmenopausal women was the most observed. Among them there was equal distribution of both estrogen receptor (ER) positive and negative patients, while progesterone receptor (PR) negative patients were more when compared to positive. HER2/neu status was available in 74 patients, among them 32.4% were strongly positive, 35.1% patients were weakly positive and 32.4% were negative. Reports on organ metastasis were available for 146 patients, among them majority (37.1%) had bone metastasis followed by liver metastasis (19.8%). The treatment of MBC mainly included systemic chemotherapy and/or hormonal therapy. Palliative radiotherapy was given to 59.2% of patients. Anthracycline based chemotherapeutic regimens (AC, FAC, CEF) were prescribed the most common (88.9 %). Taxanes and capecitabine were prescribed as second line agents. However, aromatase inhibitors (1 mg once daily anastrazole, 2.5 mg once daily letrozole, and 25 mg once daily exemestane) were prescribed mainly as sequential or extended therapy. Bisphosphonate (monthly 4mg zolendronic acid) were prescribed among 30.7% of patients. The symptomatic treatments included opiates, antiematics, dexamethasone, antidepressant, laxatives, lidocaine, iron and calcium supplements. **CONCLUSIONS:** This study highlights the epidemiological, clinico-pathological characteristics of MBC and its treatment pattern in a tertiary care hospital in South India.

PCN154

ADJUVANT AND SALVAGE RADIATION TREATMENT AFTER PROSTATECTOMY: COMPARING ITALIAN AND UNITED STATES RADIATION ONCOLOGISTS' PRACTICE ATTITUDES

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OBJECTIVES: Evidence supporting the use of adjuvant radiation therapy (ART) versus salvage RT (SRT) following prostatectomy in prostate cancer patients with high-risk disease is inconclusive. We sought to compare and contrast US and Italian Radiation Oncologists (RO) beliefs and practices on the use of ART and SRT in the treatment of prostate cancer following prostatectomy. **METHODS:** A 34-question, web-based survey on post-prostatectomy prostate cancer ART and SRT treatment attitudes was distributed to US and Italian RO. Survey invitations were e-mailed to a sample of 926 US RO selected from the American Society for Radiation Oncology membership directory, and to all 716 Italian RO listed in the Italian Association of Radiation Oncology roster. Bivariate, chi-square analyses to compare US and Italian RO responses on ART and SRT beliefs and practices were performed. **RESULTS:** The US survey had 218 respondents (24% response rate), while the Italian survey had 154 respondents (21.5% response rate). Both US and Italian RO routinely recommend ART, but more US than Italian RO would initiate ART based solely on adverse pathological features in the prostatectomy specimen (79.4% vs. 68.4%, p<0.05). 70% US RO believed ART improves survival outcomes compared to 35.5% Italian RO (p<0.05). A striking difference in ART use, timing, dosage, and technique was found between Italian and US RO. More US RO would initiate salvage therapy based on any detectable PSA compared to Italian physicians (36.8% vs. 11.3%, p<0.05); Italian RO, in contrast, were more likely than US OR to initiate SRT upon higher PSA levels. **CONCLUSIONS:** Much variation is seen between US and Italian RO in regards to use of ART and SRT in prostate cancer patients after prostatectomy. More clinical studies should be undertaken in order to provide better evidence on ART versus SRT use in clinical practice.

PCN155

PROSTATE CANCER IN ARGENTINA: TREATMENT PATTERNS AND HEALTH CARE RESOURCES UTILIZATION. RESULTS OF A LOCAL PHYSICIAN SURVEY

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OBJECTIVES: There is limited up-to-date available data examining the real-world treatment practices of prostate cancer (PC). The primary objective of this study is to describe treatment patterns, as well as resources utilization for PC in Argentina during 2012. **METHODS:** An in-depth face to face survey was conducted. Eligibility criteria included: oncologist, urologist or uro-oncologist; clinical experience in oncologic treatment of PC, including hormonal therapy; minimum patient volume of 30 PC patients at the moment of the enrollment in the survey; have high reputation as key opinion leaders. Results were analyzed and weighted according to the volume of patients each physician attended. **RESULTS:** Ten physicians (80% oncologist, 10% urologist, 10% uro-oncologist), mainly from the private sector (79% vs. 21%), with an average of 22 years of experience and currently treating an average of 44 patients were interviewed. The most common reason for consultation with the specialist was an abnormal PSA result. A total of 40% of patients were diagnosed with metastatic PC and immediately after, androgen deprivation therapy was started. In patients with localized PC, most doctors take patient's preference into account (75% of their patients) in the choice of the treatment, and as the risk increased, radical prostatectomy was more commonly used. The most common treatment pattern in hormone therapy was the combination of a GnRH analogue and antiandrogens. In castration resistant PC, docetaxel is the most common 1st line therapy and mitoxantrone the 2nd line, followed by abiraterone. Health care resource utilization such as blood tests/year (complete blood count, blood chemistry, functional liver tests, PSA), some imaging tests/year, specialist visits and hospitalizations increases as disease progresses. **CONCLUSIONS:** Treatment pattern of PC in Argentina follow International Guidelines, and resource utilization increases as the disease progresses.

DIABETES/ENDOCRINE DISORDERS – Clinical Outcomes Studies

PDB1

THE RELATIONSHIP BETWEEN SEVERITY OF CHRONIC KIDNEY DISEASE AND HOSPITALIZATIONS IN PATIENTS WITH TYPE 2 DIABETES

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OBJECTIVES: Examine the associations between severity of chronic kidney disease (CKD) in patients with Type 2 diabetes, the probability of being hospitalized, and hospital length of stay (LOS). **METHODS:** This study utilized data from Humedica electronic medical records, captured in the period January 1, 2007 through September 30, 2011. Patients eligible for this study were diagnosed with both CKD (ICD-9-CM 585.1-585.6) and Type 2 diabetes, and aged ≥21yrs as of September 30, 2011. Logistic regression analyzed the relationship between CKD severity and the probability of hospitalization, while a negative binomial regression examined the relationship between CKD severity and hospital LOS. All analyses controlled for patient demographic characteristics, baseline antidiabetic therapy, baseline HbA1c levels, patient general health, and comorbidities. **RESULTS:** 3,406 individuals met the inclusion criteria: 687 with mild (ICD-9 585.1, 585.2; 1,981 moderate (585.3); and 425 severe CKD (585.4, 585.5); 313 patients had end stage renal disease (ESRD) (585.6). Generally, patients with severe CKD or ESRD, compared to mild/moderate CKD, were more likely to be African-American, reside in the Midwest or South, have Medicaid insurance or be uninsured, and have received a prescription for insulin at baseline. Further, such patients were less likely to have commercial insurance, "good" glycemic control (HbA1c ≤7), or be using an oral antidiabetic therapy at baseline. Adjusted Odds Ratios (OR) showed that, compared to mild CKD, both severe CKD and ESRD were associated with a significantly higher likelihood of hospitalization in the 2 year post index date (Severe: OR=2.040, 95% CI 1.531 – 2.720; ESRD: OR=2.910, 95% CI 2.071 – 4.088). Similarly, moderate CKD, severe CKD and ESRD were associated with significantly longer LOS compared to mild CKD (Moderate: Coefficient=0.2431, P=0.0259; Severe: Coefficient=0.8081, P<0.0001; ESRD: Coefficient=1.1237, P<0.0001). **CONCLUSIONS:** As severity of CKD increases in patients with type 2 diabetes, the likelihood of hospitalization increases as does the need for inpatient resource utilization.

PDB2

PATTERNS OF COMORBIDITY CLUSTERS AMONG ADULTS WITH DIABETES

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OBJECTIVES: Greater comorbidity burden is correlated with poor patient outcomes among individuals with diabetes, but which condition clusters are most prevalent remains unclear. By identifying the most common multiple chronic condition (MCC) patterns, this study could help prioritize comorbidities to be addressed by clinical guidelines. **METHODS:** We conducted cross-sectional analysis of the 2008-2012 Humedica dataset containing information from electronic health records, encounter data, and lab values supplied by provider networks across the U.S. Our cohort included adults (aged ≥18 years) with type 2 diabetes and at least 24 months of ambulatory and hospital data (n=162,332). Of the 14 comorbidities listed in the 2012 American Diabetes Association guidelines, we selected the eight conditions that each affected ≥10% of the patients and analyzed the most common patterns of MCCs by age group. **RESULTS:** 89.1% of diabetes patients had at least one comorbidity and 40.9% had three or more. Conditions with a prevalence rate ≥10% included hypertension (74.7%), hyperlipidemia (65.8%), coronary artery disease (CAD, 17.7%), cancers (17.1%), COPD/asthma (14.2%), arthritis (14.0%), chronic kidney disease (CKD, 12.0%), and depression (11.4%). The leading combination was hypertension and hyperlipidemia only, accounting for 21.1% of the population, followed by hypertension only (10.9%), hyperlipidemia only (5.0%), and the combination of hypertension and hyperlipidemia plus CAD (4.7%). Older adults (≥65 years) were more likely than younger adults (<65 years) to have all comorbidities except depression (7.6% vs. 10.1%, p=<0.0001), though the condition rankings were similar in both groups. **CONCLUSIONS:** Diabetes patients have substantial

comorbidities but the patterns vary considerably across patients. Although most diabetes guidelines address co-management of hypertension and hyperlipidemia, this MCC subgroup accounts for only one-fifth of patients. The development of evidence-based strategies to manage MCCs would help physicians and patients prioritize therapies and goals.

PDB3

ASSESSING THE CLINICAL AND ECONOMIC BURDEN OF VETERAN DIABETES PATIENTS IN THE UNITED STATES

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OBJECTIVES: To assess the clinical characteristics and economic burden of type-2 diabetes patients in the U.S. veteran population **METHODS:** A retrospective database analysis was performed using the Veterans Health Administration (VHA) Medical SAS Datasets from October 1, 2005 to May 31, 2012. All U.S. veteran beneficiaries diagnosed with type-2 diabetes were identified using International Classification of Disease 9th Revision Clinical Modification (ICD-9-CM) diagnosis code 250.x0 or 250.x2. Comorbidities and other clinical conditions were examined for the 12-month baseline period. Health care resource utilization and costs were assessed for the 12-month follow-up period. Descriptive statistics were calculated as means ± standard deviation and percentages to measure comorbidities, laboratory results, costs, and utilization distribution within the sample. **RESULTS:** A total of 741,406 veterans were identified as diagnosed with Type 2 diabetes. Of these patients, 18.77% had glycated hemoglobin (HbA1c) test results ≥7% and 27.21% had abnormal serum creatinine results. 62.71% of patients were obese with a body mass index (BMI) of ≥30. The most common comorbidities were unspecified essential hypertension (21.62%), other and unspecified hyperlipidemia (6.75%) and post-traumatic stress disorder (5.15%). After examining treatment within 60 days of disease identification, simvastatin was the most commonly prescribed medication (21.62%), followed by metformin hydrochloride (27.43%). Insulin was also among the top 10 treatments with 10.67% of patients prescribed this medication. The percentage of patients with follow-up outpatient visits was 99.80%, which translated into $6,531 average outpatient costs. The percentages of inpatient (13.21%), emergency room (16.94%), physician office (99.76%) and pharmacy visits (90.33%) were also calculated for diabetes patients. **CONCLUSIONS:** Obesity may play an important role in patients' development of diabetes since two-thirds of studied patients were obese prior to disease identification. Hypertension may also be an associated risk factor that should be further evaluated.

PDB4

TYPE 2 DIABETES PATIENT CHARACTERISTICS BY RACE/ETHNICITY

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OBJECTIVES: The ADA/EASD guidelines suggest the management and treatment of type 2 diabetes mellitus (T2DM) can be impacted by many factors such as age, comorbidities, hypoglycemia risk, and treatment adherence. Understanding how the T2DM disease burden differs across race/ethnic groups may aid in individualization of treatment. **METHODS:** Using data from the 2011 patient-reported US National Health and Wellness Survey (NHWS), we characterized the T2DM population by profiling patients by race/ethnicity (White, African American [AA], Hispanic, or Other). NHWS results were stratified, then weighted and projected to reflect the demographic composition of the total adult population (based on Census data for gender, age, race/ethnicity, and educational attainment). **RESULTS:** Of the total 7,828 patients with T2DM, 75.8% were White, 11.4% were AA, 6.7% were Hispanic, and 6.1% were Other (includes Asian American and American Indian). The top 3 comorbidities per group were the same for the 3 predominant groups: hypertension (62% Whites, 64% AAs, 55% Hispanics), high cholesterol (66% Whites, 58% AAs, 57% Hispanics), and pain (55% Whites, 50% AAs, 51% Hispanics). However, significantly more Whites reported high cholesterol than AAs and Hispanics ($P=0.002$ and $P=0.001$, respectively). Sixty three to seventy nine percent of White, AA, and Hispanic patients with T2DM reported body mass index (BMI) ≥30 kg/m^2; <10% of all patients reported BMI <25 kg/m^2. Furthermore, Hispanics reported lower medication adherence than Whites (57.4% vs 65% adherent; $P=0.008$); adherence among AAs was 63%. Hypoglycemia was reported by 54% of Hispanics, 51% of Whites, and 49% of AAs. **CONCLUSIONS:** Understanding the characteristics of patients with T2DM by race/ethnicity can provide insights on the types of diabetes management challenges that different patient populations may face. These observations may encourage providers to engage minority populations in their health care management and tailor education to the individual.

PDB5

DOES DEVICE MATTER AND AT WHAT COST? REAL-WORLD COMPARATIVE STUDY OF INSULIN GLARGINE TREATMENT USING DISPOSABLE PEN VERSUS VIAL/SYRINGE IN MEDICAID PATIENTS WITH TYPE-2 DIABETES MELLITUS

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OBJECTIVES: For insulin-treated patients with type 2 diabetes mellitus (T2DM), disposable pen may facilitate insulin administration compared to traditional vial/syringe. This study compared real-world outcomes of insulin glargine (GLA) administered via disposable pen versus vial/syringe injections among Medicaid T2DM patients. **METHODS:** Using 2007-2010 claims data from the MarketScan®Medicaid database, this retrospective study examined 1-year follow-up outcomes among adult T2DM patients who were insulin-naive and initiated GLA via disposable pen (Pen Initiators, PI) or vial/syringe (Vial Initiators, VI), or GLA users continuing vial/syringe (Vial Continuers, VC) or switching to disposable pen (Pen Switchers, PS). Propensity-score matching was used to control for differences in baseline characteristics between PI and VI cohorts, and PS and VC cohorts, with each pen user matched to ≤2 vial users. Endpoints included 1-year treatment persistence and adherence, hypoglycemia, and health care costs. **RESULTS:** There were 2594 matched patients from 7 states and 2 managed care plans in the insulin-naive cohorts (PI: n=983, VI: n=1,611; mean age 56 years, 65% female) and 2237 matched patients in the insulin-experienced cohorts (PS: n=783, VC: n=1454; mean age 52 years, 66% female). Compared with their respective matched cohorts, pen cohorts were significantly more treatment-persistent (PI: 49.2% vs. VI: 40.8%; PS: 45.6% vs. VC: 36.7%; both $P<0.001$) for longer time (276 vs. 247 and 257 vs. 236 days; both $P<0.001$). Similar numbers of patients had hypoglycemia among the insulin-naive ($P=0.153$) and insulin-experienced cohorts ($P=0.164$). Although pen users had significantly higher study drug costs than vial users ($P<0.001$), total health care costs were comparable (PI: $15,151 vs. VI: $15,994; $P=0.458$, and PS: $22,441 vs. VC: $22,403; $P=0.984$) due to an offset of medical costs. **CONCLUSIONS:** This real-world study suggests that, among Medicaid T2DM patients treated with GLA, use of disposable pen provides a beneficial effect of achieving better persistence without increasing overall health care costs.

PDB6

THE EFFECT OF INSULIN PUMP THERAPY ON HBA1C AMONG THOSE WITH TYPE-1 DIABETES

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OBJECTIVES: Patients with type-1 diabetes (T1D) can either use multiple daily injections or insulin pump therapy (IPT) to achieve glycemic control. However, there is a lack of real-world data on the differences in these treatment options, particularly as they relate to effectiveness. The objective of this study was to investigate the relationship between IPT and HbA1c among patients with T1D. **METHODS:** Data from unique respondents from the 2009-2012 U.S. National Health and Wellness Surveys were used. Among respondents who reported a diagnosis of T1D and reported using insulin, those who reported using IPT were compared with those who were not using IPT on reported HbA1c levels using an ordered logistic regression model controlling for sociodemographic and health history differences. **RESULTS:** A total of 1833 patients reported being diagnosed with T1D and were currently using insulin. Of these patients, 495 reported using IPT (27.0%). Patients using IPT had been diagnosed with T1D for longer (26.8 vs. 21.1 years) and were significantly more likely to be female (53.1% vs. 42.5%), be non-Hispanic white (85.9% vs. 68.3%), have an annual household income of $75K or more (28.3% vs. 19.2%), and possess health insurance (95.8% vs. 84.5%) (all $p<.05$). Patients using IPT also reported significantly lower levels of HbA1c (7.2% vs. 7.5%, $p<.05$). Adjusting for sociodemographic and health history differences, patients using IPT were significantly less likely to report HbA1c levels 9% or more ($b=-0.80$, $OR=0.45$, $p<.05$). **CONCLUSIONS:** Although T1D patients with greater health care access were more likely to use IPT, even after adjusting for these differences, a significant effect of IPT was observed on HbA1c. These results suggest that IPT may be associated with greater real-world effectiveness, though additional research is necessary.

PDB7

N-ACETYLCYSTEINE FOR POLYCYSTIC OVARY SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED CLINICAL TRIALS

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OBJECTIVES: To perform a meta-analysis of the clinical and biochemical outcomes of N-Acetyl Cysteine (NAC) in women with polycystic ovary syndrome (PCOS). **METHODS:** Systematic review of pertinent studies was conducted by using bibliographic databases such as MEDLINE (Ovid), CENTRAL, EMBASE and PsycInfo(inception to Nov 2012). References of selected articles were either hand-searched and by using PROQUEST and Web of Science. The review included randomised controlled trials with women participants having PCOS and undergoing treatment with NAC alone or in combination with ovulation induction methods like clomiphene citrate (CC) or gonadotropin injections, or in vitro fertilization (IVF). **RESULTS:** Out of 182 retrieved reports, eight studies (900 women) were included. Three studies compared NAC (n=179) to metformin (n=177) while five studies compared NAC (n=272) to placebo (n=269). Compared to placebo, NAC improved pregnancy rate (pooled odds ratio, OR: 3.97, 95% CI: 2.07, 7.59, 3 trials, 377 women, $P<0.0001$; I^2: 53%), ovulation rate (OR: 4.49, 95% CI: 2.86, 7.04, 3 trials, 353 women, $P<0.0001$; I^2: 85%) and live birth rate (OR: 3, 95% CI: 1.05, 8.60, 1 trial, 60 women, $P=0.04$). However, compared to metformin, NAC did not improve pregnancy rate, resumption of menstruation cycle, body mass index or testosterone level. NAC was signifianctly associated with lower ovulation rate (OR: 0.13, 95% CI: 0.08, 0.22, 2 trials, 253 women, $P<0.0001$; I^2: 0%) compared to metformin. On the other hand, compared to NAC, metformin improved glucose and insulin resistance profiles. Also, when used alone or in combination with clomiphene, NAC did not significantly improve the anthropometric characteristics, testosterone levels, and lipid profiles compared to placebo and metformin. **CONCLUSIONS:** NAC was associated with improved clinical pregnancy but there was limited evidence that NAC improved live birth rates alone or in combination with clomiphene. Given the quality of studies,